



# SEQUENCE LISTING

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<120> DOMINANT NEGATIVE PROTEINS AND METHODS THEREOF

<130> A-71273-3

<140> 10/611,399  
<141> 2003-07-01

<150> US 10/338,083  
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<150> US 60/345,805  
<151> 2002-01-04

<150> US 60/373,453  
<151> 2002-04-17

<160> 23

<170> PatentIn version 3.2

<210> 1  
<211> 147  
<212> PRT  
<213> Homo sapiens

<400> 1

Lys Pro Val Ala His Val Val Ala Asn Pro Gln Ala Glu Gly Gln Leu  
1 5 10 15

Gln Trp Leu Asn Arg Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu  
20 25 30

Leu Arg Asp Asn Gln Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile  
35 40 45

Tyr Ser Gln Val Leu Phe Lys Gly Gln Gly Cys Pro Ser Thr His Val  
50 55 60

Leu Leu Thr His Thr Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys  
65 70 75 80

Val Asn Leu Leu Ser Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro  
85 90 95

Glu Gly Ala Glu Ala Lys Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly  
 100 105 110

Val Phe Gln Leu Glu Lys Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg  
 115 120 125

Pro Asp Tyr Leu Asp Phe Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile  
 130 135 140

Ile Ala Leu  
 145

<210> 2  
 <211> 144  
 <212> PRT  
 <213> Homo sapiens

<400> 2

Lys Pro Ala Ala His Leu Ile Gly Asp Pro Ser Lys Gln Asn Ser Leu  
 1 5 10 15

Leu Trp Arg Ala Asn Thr Asp Arg Ala Phe Leu Gln Asp Gly Phe Ser  
 20 25 30

Leu Ser Asn Asn Ser Leu Leu Val Pro Thr Ser Gly Ile Tyr Phe Val  
 35 40 45

Tyr Ser Gln Val Val Phe Ser Gly Lys Ala Tyr Ser Pro Lys Ala Thr  
 50 55 60

Ser Ser Pro Leu Tyr Leu Ala His Glu Val Gln Leu Phe Ser Ser Gln  
 65 70 75 80

Tyr Pro Phe His Val Pro Leu Leu Ser Ser Gln Lys Met Val Tyr Pro  
 85 90 95

Gly Leu Gln Glu Pro Trp Leu His Ser Met Tyr His Gly Ala Ala Phe  
 100 105 110

Gln Leu Thr Gln Gly Asp Gln Leu Ser Thr His Thr Asp Gly Ile Pro  
 115 120 125

His Leu Val Leu Ser Pro Ser Thr Val Phe Phe Gly Ala Phe Ala Leu  
 130 135 140

<210> 3  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

<400> 3

Arg Lys Val Ala His Leu Thr Gly Lys Ser Asn Ser Arg Ser Met Pro  
 1 5 10 15

Leu Glu Trp Glu Asp Thr Tyr Gly Ile Val Leu Leu Ser Gly Val Lys  
 20 25 30

Tyr Lys Lys Gly Gly Leu Val Ile Asn Glu Thr Gly Leu Tyr Phe Val  
 35 40 45

Tyr Ser Lys Val Tyr Phe Arg Gly Gln Ser Cys Asn Asn Leu Pro Leu  
 50 55 60

Ser His Lys Val Tyr Met Arg Asn Ser Lys Tyr Pro Gln Asp Leu Val  
 65 70 75 80

Met Met Glu Gly Lys Met Met Ser Tyr Cys Thr Thr Gly Gln Met Trp  
 85 90 95

Ala Arg Ser Ser Tyr Leu Gly Ala Val Phe Asn Leu Thr Ser Ala Asp  
 100 105 110

His Leu Tyr Val Asn Val Ser Glu Leu Ser Leu Val Asn Phe Glu Glu  
 115 120 125

Ser Gln Thr Phe Phe Gly Leu Tyr Lys Leu  
 130 135

<210> 4  
 <211> 148  
 <212> PRT  
 <213> Homo sapiens

<400> 4

Asn Pro Ala Ala His Leu Thr Gly Ala Asn Ser Ser Leu Thr Gly Ser  
 1 5 10 15

Gly Gly Pro Leu Leu Trp Glu Thr Gln Leu Gly Leu Ala Phe Leu Arg



Ser Ile Thr Val Val Ile Thr Lys Val Thr Asp Ser Tyr Pro Glu Pro  
65 70 75 80

Thr Gln Leu Leu Met Gly Thr Lys Ser Val Cys Glu Val Gly Ser Asn  
85 90 95

Trp Phe Gln Pro Ile Tyr Leu Gly Ala Met Phe Ser Leu Gln Glu Gly  
100 105 110

Asp Lys Leu Met Val Asn Val Ser Asp Ile Ser Leu Val Asp Tyr Thr  
115 120 125

Lys Glu Asp Lys Thr Phe Phe Gly Ala Phe Leu Leu  
130 135 140

<210> 6  
<211> 157  
<212> PRT  
<213> Homo sapiens

<400> 6

Leu Pro Ala Ala His Leu Ile Gly Ala Pro Leu Lys Gly Gln Gly Leu  
1 5 10 15

Gly Trp Glu Thr Thr Lys Glu Gln Ala Phe Leu Thr Ser Gly Thr Gln  
20 25 30

Phe Ser Asp Ala Glu Gly Leu Ala Leu Pro Gln Asp Gly Leu Tyr Tyr  
35 40 45

Leu Tyr Cys Leu Val Gly Tyr Arg Gly Arg Ala Pro Pro Gly Gly Gly  
50 55 60

Asp Pro Gln Gly Arg Ser Val Thr Leu Arg Ser Ser Leu Tyr Arg Ala  
65 70 75 80

Gly Gly Ala Tyr Gly Pro Gly Thr Pro Glu Leu Leu Leu Glu Gly Ala  
85 90 95

Glu Thr Val Thr Pro Val Leu Asp Pro Ala Arg Arg Gln Gly Tyr Gly  
100 105 110

Pro Leu Trp Tyr Thr Ser Val Gly Phe Gly Gly Leu Val Gln Leu Arg

115 120 125  
 Arg Gly Glu Arg Val Tyr Val Asn Ile Ser His Pro Asp Met Val Asp  
 130 135 140

Phe Ala Arg Gly Lys Thr Phe Phe Gly Ala Val Met Val  
 145 150 155

<210> 7  
 <211> 136  
 <212> PRT  
 <213> Homo sapiens

<400> 7

His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys Asp Asp  
 1 5 10 15

Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala Leu Arg Arg Gly Arg  
 20 25 30

Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala Gly Val  
 35 40 45

Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe Thr Met  
 50 55 60

Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr Leu Phe  
 65 70 75 80

Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp Arg Ala Tyr Asn Ser  
 85 90 95

Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile Leu Ser  
 100 105 110

Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn Leu Ser Pro His Gly  
 115 120 125

Thr Phe Leu Gly Phe Val Lys Leu  
 130 135

<210> 8  
 <211> 141  
 <212> PRT

<213> Homo sapiens

<400> 8

Gln Asp Cys Leu Gln Leu Ile Ala Asp Ser Glu Thr Pro Thr Ile Gln  
1 5 10 15

Lys Gly Ser Tyr Thr Phe Val Pro Trp Leu Leu Ser Phe Lys Arg Gly  
20 25 30

Ser Ala Leu Glu Glu Lys Glu Asn Lys Ile Leu Val Lys Glu Thr Gly  
35 40 45

Tyr Phe Phe Ile Tyr Gly Gln Val Leu Tyr Thr Asp Lys Thr Tyr Ala  
50 55 60

Met Gly His Leu Ile Gln Arg Lys Lys Val His Val Phe Gly Asp Glu  
65 70 75 80

Leu Ser Leu Val Thr Leu Phe Arg Cys Ile Gln Asn Met Pro Glu Thr  
85 90 95

Leu Pro Asn Asn Ser Cys Tyr Ser Ala Gly Ile Ala Lys Leu Glu Glu  
100 105 110

Gly Asp Glu Leu Gln Leu Ala Ile Pro Arg Glu Asn Ala Gln Ile Ser  
115 120 125

Leu Asp Gly Asp Val Thr Phe Phe Gly Ala Leu Lys Leu  
130 135 140

<210> 9

<211> 141

<212> PRT

<213> Homo sapiens

<400> 9

Gln Ile Ala Ala His Val Ile Ser Glu Ala Ser Ser Lys Thr Thr Ser  
1 5 10 15

Val Leu Gln Trp Ala Glu Lys Gly Tyr Tyr Thr Met Ser Asn Asn Leu  
20 25 30

Val Thr Leu Glu Asn Gly Lys Gln Leu Thr Val Lys Arg Gln Gly Leu  
35 40 45

Tyr Tyr Ile Tyr Ala Gln Val Thr Phe Cys Ser Asn Arg Glu Ala Ser  
50 55 60

Ser Gln Ala Pro Phe Ile Ala Ser Leu Cys Leu Lys Ser Pro Gly Arg  
65 70 75 80

Phe Glu Arg Ile Leu Leu Arg Ala Ala Asn Thr His Ser Ser Ala Lys  
85 90 95

Pro Cys Gly Gln Gln Ser Ile His Leu Gly Gly Val Phe Glu Leu Gln  
100 105 110

Pro Gly Ala Ser Val Phe Val Asn Val Thr Asp Pro Ser Gln Val Ser  
115 120 125

His Gly Thr Gly Phe Thr Ser Phe Gly Leu Leu Lys Leu  
130 135 140

<210> 10  
<211> 151  
<212> PRT  
<213> Homo sapiens

<400> 10

Gln Pro Phe Ala His Leu Thr Ile Asn Ala Thr Asp Ile Pro Ser Gly  
1 5 10 15

Ser His Lys Val Ser Leu Ser Ser Trp Tyr His Asp Arg Gly Trp Ala  
20 25 30

Lys Ile Ser Asn Met Thr Phe Ser Asn Gly Lys Leu Ile Val Asn Gln  
35 40 45

Asp Gly Phe Tyr Tyr Leu Tyr Ala Asn Ile Cys Phe Arg His His Glu  
50 55 60

Thr Ser Gly Asp Leu Ala Thr Glu Tyr Leu Gln Leu Met Val Tyr Val  
65 70 75 80

Thr Lys Thr Ser Ile Lys Ile Pro Ser Ser His Thr Leu Met Lys Gly  
85 90 95



Gly Ser Thr Lys Tyr Trp Ser Gly Asn Ser Glu Phe His Phe Tyr Ser  
100 105 110

Ile Asn Val Gly Gly Phe Phe Lys Leu Arg Ser Gly Glu Glu Ile Ser  
115 120 125

Ile Glu Val Ser Asn Pro Ser Leu Leu Asp Pro Asp Gln Asp Ala Thr  
130 135 140

Tyr Phe Gly Ala Phe Lys Val  
145 150

<210> 11  
<211> 161  
<212> PRT  
<213> Homo sapiens

<400> 11

Gln Arg Val Ala Ala His Ile Thr Gly Thr Arg Gly Arg Ser Asn Thr  
1 5 10 15

Leu Ser Ser Pro Asn Ser Lys Asn Glu Lys Ala Leu Gly Arg Lys Ile  
20 25 30

Asn Ser Trp Glu Ser Ser Arg Ser Gly His Ser Phe Leu Ser Asn Leu  
35 40 45

His Leu Arg Asn Gly Glu Leu Val Ile His Glu Lys Gly Phe Tyr Tyr  
50 55 60

Ile Tyr Ser Gln Thr Tyr Phe Arg Phe Gln Glu Glu Ile Lys Glu Asn  
65 70 75 80

Thr Lys Asn Asp Lys Gln Met Val Gln Tyr Ile Tyr Lys Tyr Thr Ser  
85 90 95

Tyr Pro Asp Pro Ile Leu Leu Met Lys Ser Ala Arg Asn Ser Cys Trp  
100 105 110

Ser Lys Asp Ala Glu Tyr Gly Leu Tyr Ser Ile Tyr Gln Gly Gly Ile  
115 120 125

Phe Glu Leu Lys Glu Asn Asp Arg Ile Phe Val Ser Val Thr Asn Glu  
130 135 140

His Leu Ile Asp Met Asp His Glu Ala Ser Phe Phe Gly Ala Phe Leu  
 145 150 155 160

Val

<210> 12  
 <211> 126  
 <212> PRT  
 <213> Homo sapiens

<400> 12

Gly Pro Gln Gln Asp Pro Arg Leu Tyr Trp Gln Gly Gly Pro Ala Leu  
 1 5 10 15

Gly Arg Ser Phe Leu His Gly Pro Glu Leu Asp Lys Gly Gln Leu Arg  
 20 25 30

Ile His Arg Asp Gly Ile Tyr Met Val His Ile Gln Val Thr Leu Ala  
 35 40 45

Ile Cys Ser Ser Thr Thr Ala Ser Arg His His Pro Thr Thr Leu Ala  
 50 55 60

Val Gly Ile Cys Ser Pro Ala Ser Arg Ser Ile Ser Leu Leu Arg Leu  
 65 70 75 80

Ser Phe His Gln Gly Cys Thr Ile Val Ser Gln Arg Leu Thr Pro Leu  
 85 90 95

Ala Arg Gly Asp Thr Leu Cys Thr Asn Leu Thr Gly Thr Leu Leu Pro  
 100 105 110

Ser Arg Asn Thr Asp Glu Thr Phe Phe Gly Val Gln Trp Val  
 115 120 125

<210> 13  
 <211> 153  
 <212> PRT  
 <213> Homo sapiens

<400> 13

Arg Gln Gly Met Phe Ala Gln Leu Val Ala Gln Asn Val Leu Leu Ile

1	5	10	15
Asp Gly Pro Leu Ser Trp Tyr Ser Asp Pro Gly Leu Ala Gly Val Ser	20	25	30
Leu Thr Gly Gly Leu Ser Tyr Lys Glu Asp Thr Lys Glu Leu Val Val	35	40	45
Ala Lys Ala Gly Val Tyr Tyr Val Phe Phe Gln Leu Glu Leu Arg Arg	50	55	60
Val Val Ala Gly Glu Gly Ser Gly Ser Val Ser Leu Ala Leu His Leu	65	70	75
Gln Pro Leu Arg Ser Ala Ala Gly Ala Ala Ala Leu Ala Leu Thr Val	85	90	95
Asp Leu Pro Pro Ala Ser Ser Glu Ala Arg Asn Ser Ala Phe Gly Phe	100	105	110
Gln Gly Arg Leu Leu His Leu Ser Ala Gly Gln Arg Leu Gly Val His	115	120	125
Leu His Thr Glu Ala Arg Ala Arg His Ala Trp Gln Leu Thr Gln Gly	130	135	140
Ala Thr Val Leu Gly Leu Phe Arg Val	145	150	

<210> 14  
 <211> 98  
 <212> PRT  
 <213> Homo sapiens

<400> 14

Gly Glu Phe Ile Val Thr Arg Ala Gly Leu Tyr Tyr Leu Tyr Cys Gln	1	5	10	15
Val His Phe Asp Glu Gly Lys Ala Val Tyr Leu Lys Leu Asp Leu Leu	20	25	30	
Val Asp Gly Val Leu Ala Leu Arg Cys Leu Glu Glu Phe Ser Ala Thr	35	40	45	

Ala Ala Ser Ser Leu Gly Pro Gln Leu Arg Leu Cys Gln Val Ser Gly  
 50 55 60

Leu Leu Ala Leu Arg Pro Gly Ser Ser Leu Arg Ile Arg Thr Leu Pro  
 65 70 75 80

Trp Ala His Leu Lys Ala Ala Pro Phe Leu Thr Tyr Phe Gly Leu Phe  
 85 90 95

Gln Val

<210> 15  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

<400> 15

Ala Pro Phe Lys Lys Ser Trp Ala Tyr Leu Gln Val Ala Lys His Leu  
 1 5 10 15

Asn Lys Thr Lys Leu Ser Trp Asn Lys Asp Gly Ile Leu His Gly Val  
 20 25 30

Arg Tyr Gln Asp Gly Asn Leu Val Ile Gln Phe Pro Gly Leu Tyr Phe  
 35 40 45

Ile Ile Cys Gln Leu Gln Phe Leu Val Gln Cys Pro Asn Asn Ser Val  
 50 55 60

Asp Leu Lys Leu Glu Leu Leu Ile Asn Lys His Ile Lys Lys Gln Ala  
 65 70 75 80

Leu Val Thr Val Cys Glu Ser Gly Met Gln Thr Lys His Val Tyr Gln  
 85 90 95

Asn Leu Ser Gln Phe Leu Leu Asp Tyr Leu Gln Val Asn Thr Thr Ile  
 100 105 110

Ser Val Asn Val Asp Thr Phe Gln Tyr Ile Asp Thr Ser Thr Phe Pro  
 115 120 125

Leu Glu Asn Val Leu Ser Ile Phe Leu Tyr

130

135

<210> 16  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 16

Lys Gly Phe Ile Leu Thr Ser Gln Lys Glu Asp Glu Ile Met Lys Val  
 1 5 10 15

Gln Asn Asn Ser Val Ile Ile Asn Cys Asp Gly Phe Tyr Leu Ile Ser  
 20 25 30

Leu Lys Gly Tyr Phe Ser Gln Glu Val Asn Ile Ser Leu His Tyr Gln  
 35 40 45

Lys Asp Glu Glu Pro Leu Phe Gln Leu Lys Lys Val Arg Ser Val Asn  
 50 55 60

Ser Leu Met Val Ala Ser Leu Thr Tyr Lys Asp Lys Val Tyr Leu Asn  
 65 70 75 80

Val Thr Thr Asp Asn Thr Ser Leu Asp Asp Phe His Val Asn Gly Gly  
 85 90 95

Glu Leu Ile Leu Ile His Gln Asn Pro Gly Glu Phe Cys Val Leu  
 100 105 110

<210> 17  
 <211> 113  
 <212> PRT  
 <213> Homo sapiens

<400> 17

Cys Met Ala Lys Phe Gly Pro Leu Pro Ser Lys Trp Gln Met Ala Ser  
 1 5 10 15

Ser Glu Pro Pro Cys Val Asn Lys Val Ser Asp Trp Lys Leu Glu Ile  
 20 25 30

Leu Gln Asn Gly Leu Tyr Leu Ile Tyr Gly Gln Val Ala Pro Asn Ala  
 35 40 45

Asn Tyr Asn Asp Val Ala Pro Phe Glu Val Arg Leu Tyr Lys Asn Lys  
 50 55 60

Asp Met Ile Gln Thr Leu Thr Asn Lys Ser Lys Ile Gln Asn Val Gly  
 65 70 75 80

Gly Thr Tyr Glu Leu His Val Gly Asp Thr Ile Asp Leu Ile Phe Asn  
 85 90 95

Ser Glu His Gln Val Leu Lys Asn Asn Thr Tyr Trp Gly Ile Ile Leu  
 100 105 110

Leu

<210> 18  
 <211> 33  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> coiled-coil motif

<400> 18

Arg Met Glu Lys Leu Glu Gln Lys Val Lys Glu Leu Leu Arg Lys Asn  
 1 5 10 15

Glu Arg Leu Glu Glu Glu Val Glu Arg Leu Lys Gln Leu Val Gly Glu  
 20 25 30

Arg

<210> 19  
 <211> 24  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> coiled-coil motif

<400> 19

Ala Ala Leu Glu Ser Glu Val Ser Ala Leu Glu Ser Glu Val Ala Ser  
 1 5 10 15

Leu Glu Ser Glu Val Ala Ala Leu

20

<210> 20  
<211> 24  
<212> PRT  
<213> Artificial sequence

<220>  
<223> coiled-coil motif

<400> 20

Leu Ala Ala Val Lys Ser Lys Leu Ser Ala Val Lys Ser Lys Leu Ala  
1 5 10 15

Ser Val Lys Ser Lys Leu Ala Ala  
20

<210> 21  
<211> 5  
<212> PRT  
<213> Artificial sequence

<220>  
<223> linker consensus sequence

<400> 21

Gly Ser Gly Gly Ser  
1 5

<210> 22  
<211> 5  
<212> PRT  
<213> Artificial sequence

<220>  
<223> linker consensus sequence

<400> 22

Gly Gly Gly Gly Ser  
1 5

<210> 23  
<211> 4  
<212> PRT  
<213> Artificial sequence

<220>  
<223> linker consensus sequence

<400> 23

Gly Gly Gly Ser

1